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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/802,094

03/16/2004

Hiroki Kitagawa

82478-5900

4072

7590

06/06/2005

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EXAMINER

HO, BINH VAN

ART UNIT

PAPER NUMBER

2821

DATE MAILED: 06/06/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/802,094

Applicant(s)

KITAGAWA ET AL.

Examiner

Binh V. Ho

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 02 August 2004.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☐ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 3, 4, 9 and 10 is/are allowed.
- 6) ☒ Claim(s) 1, 2, 5-8, and 11-12 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 08/02/2004.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this

Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

2. Claims 1,2 and 8 are rejected under 35 U.S.C. 102(e) as being anticipated by Kominami (6,577,066).

(Claim 1)

Kominami discloses a driving apparatus (1) for driving a fluorescent lamp (1) using a high-frequency inverter method, the driving apparatus comprising: a substrate (6) that has a first main surface (6a) and a second main surface (6b), each main surface including an electronic-device mountable area; a choke coil (7) that is mounted to the first main surface (6a) and is thermally connected to the substrate (6), the choke coil (7) being a component of a high-frequency inverter, and a switching device (8,9) that is mounted to the second main surface (6b), so as to be opposed to the choke coil (7) with the substrate (6) therebetween and to be thermally connected to the substrate (6), the switching device (8,9) being a component of the high-frequency inverter and being positioned in a power-supply path to the fluorescent lamp (1).

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(Claim 2 and 8)

Kominami discloses the switching device (8,9). Therefore, switching device in Kominami inherently performs the functions of shutting down or restricting a power supply to the fluorescent lamp (1) when a temperature of a main body of the switching device (8,9) exceeds a heat resistance temperature, the main body receiving transmission of heat generated at the choke coil (7).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 6,7 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kominami (6,577,066) in view of Iida (US 2005/0068775).

(Claim 6,7 and 12)

Kominami teaches all of the elements, except for the arc tube that has a double-spiral.

Iida discloses the arc tube that has a double-spiral (Figure 1). Iida teaches to miniaturize a fluorescent lamp by creating a double-spiral structure.

It would have been obvious to one of ordinary skill in the art at the time of the invention to use arc tube have a double-spiral because such the

double-spiral arc tube is advantageous over an arc tube that has ends of the glass tube running parallel to the spiral axis, or over an arc tube formed by connecting three U-shape glass tubes (so to speak, three U-shape arc tube), so that it can be made smaller for the same amount of light emission.

5. Claims 5 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kominami (6,577,066) in view of Gutierrez (US 20040005820).

Kominami teaches substantially the claimed invention as noted above in claim 1. Kominami further teaches electronic devices different from the choke coil are mounted to the first main surface (6a) of the substrate (6) by insertion mounting method. However, Kominami does not suggest at least one of the electronic devices is provided to have an angle in a range larger than 0 degree and smaller than 90 degrees.

Gutierrez shows in figure below at least one of the electronic devices is provided to have an angle in a range larger than 0 degree and smaller than 90 degrees, with respect to a mounting orientation of the choke coil, and a lead portion of the electronic device having the angle is processed to be bent towards a center of the first main surface. It would have been obvious to one of ordinary skill in the art at the time of the invention to provide the electronic device in the manner as recited in claim 5 and 11 in order to accommodate spacing, as well as thermal relief of the electronic components.

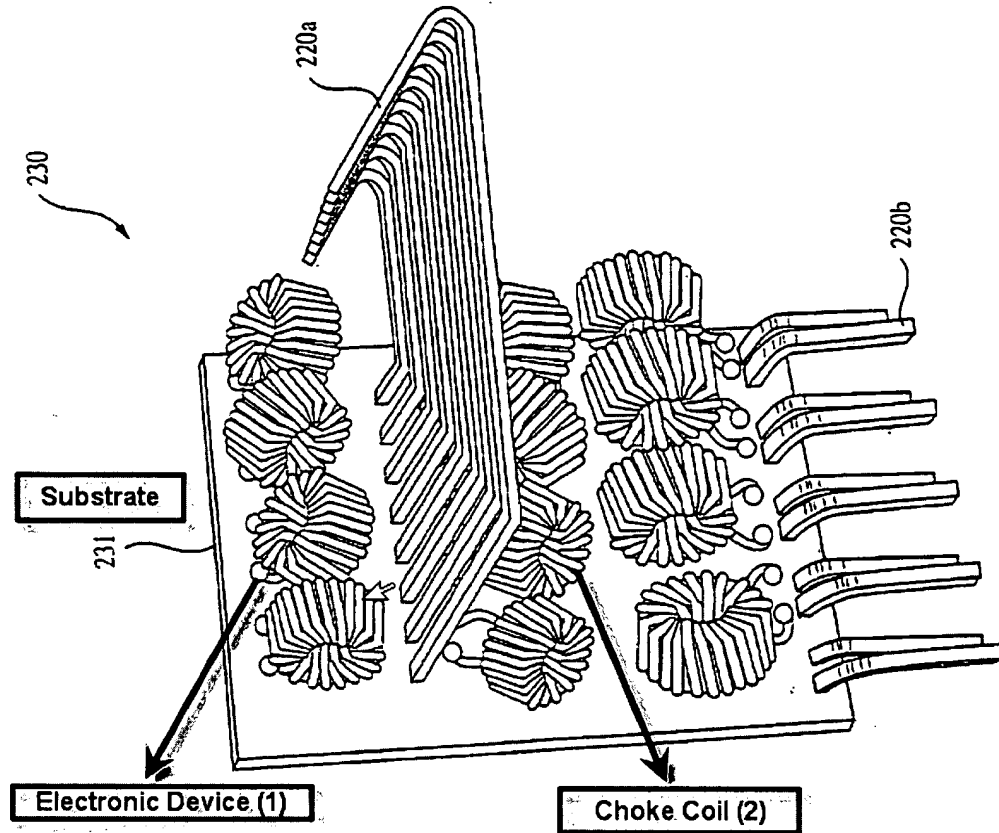


FIG. 2f

Allowable Subject Matter

6. Claims 3,4,9 and 10 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

7. The following is a statement of reasons for the indication of allowable subject matter:

The cited art of the record fails to teach the smoothing capacitor device, main body is provided in proximity of the choke coil with a gap of 4mm or in contact with the choke coil.

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Inquiry

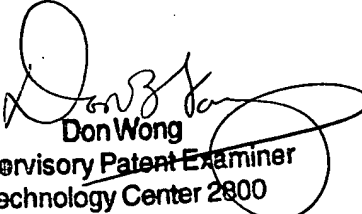
8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Binh V. Ho whose telephone number is 571 272 8583. The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Don K. Wong can be reached on 571 272 1834. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Binh V Ho
Examiner
Art Unit 2821

Binh Van Ho
05/26/2005


Don Wong
Supervisory Patent Examiner
Technology Center 2800

